Call For Proposals
High Impact Projects in Computational Science and Engineering

Los Alamos National Laboratory
Lawrence Livermore National Laboratory
Sandia National Laboratory

The Los Alamos Senior Executive Team has instituted an Institutional Computing program. As part of this effort, from early November through December, the second 1024-node segment of the HP-Compaq Q machine (QB: 10 TF peak, 11 TB memory) will be available in the unclassified yellow partition at Los Alamos for *science and engineering runs*. These runs will be part of CCN-Division's system integration efforts for QB.

We are requesting proposals from Los Alamos, Lawrence Livermore and Sandia National Laboratories describing specific computational science projects that can take advantage of this unique opportunity. Proposed projects should (1) address a problem with significant impact in science or engineering, (2) use a considerable fraction of this resource in terms of CPU-hours (total available is approximately 4,500,000) and (3) have completed relevant computations during this two month period. In addition, proposers must be willing to work closely with HP-Compaq and Laboratory staff during this integration period. Depending on the response, we anticipate 4-8 projects to be selected via this process. Detailed information on a smaller version of this HP-Compaq architecture can be found at http://icnn1.lanl.gov/ldswg/icnn/content/littleq/.

Proposals should be submitted by 25 October 2002, via e-mail to ictc@lanl.gov. The preferred electronic formats are pdf or MS Word files. Proposals are limited to 5 pages in a reasonable style and should be written at an appropriate level of detail for a technically diverse review team. Pointers to additional Web-accessible information are encouraged. This proposal is only for computing resources, is restricted to the period specified above, and is not to support staff R&D activities. Each proposal should contain the following:

0. Project information. This should include project title, Principal Investigator name, organization and e-mail address as well as other Laboratory and external investigators that will require access.
1. Project description. This should include project technical objectives and schedules as well as appropriate, accessible references.
2. Project significance. This should include an assessment of the specific impacts that this project will have upon successful completion. Examples include impact on a scientific or engineering discipline, impact on acceptance of simulation as a scientific or decision-making tool, impact on the missions of the NNSA or the Department of Energy, and/or impact on the future development of high performance technical computing.
3. Resource requirements. This should include total CPU-hours, memory, disk and archival storage requirements and a description of the job mix anticipated.

4. High performance computing experience. This should include a history of the parallel codes to be employed in the proposed project. Data and projections of scaling properties on large-scale parallel platforms are highly desirable.

Proposals will be reviewed and evaluated by the Los Alamos Institutional Computing Technical Committee (ICTC). Evaluations will be based on the following criteria:

1. The significance and impact of the proposed computer and/or computational science and
2. The ability to effectively utilize a significant portion of this resource in a timely fashion.

Decisions concerning the allocation of these resources will be announced by November 8, 2002.